



April 23, 2011

Duke Energy  
Miami Fort Generating Station  
11021 Brower Road  
North Bend, OH 45052

Attention: Ms. Sue Wallace  
Chemical Engineer

Re: Results – **April 2011**  
Low-Level Mercury Sampling  
Miami Fort Generating Station  
North Bend, Ohio

In accordance with your request, URS prepared the following letter report transmitting low-level mercury test results for samples collected at the Miami Fort Generating Station located in North Bend, Ohio.

The scope of work involved the sampling of intake and discharge waters from the following sources and analysis of those samples for low-level mercury.

1. River Intake
2. Station 601 (WWT Influent)  
[Samples were collected at this station one detention time before samples collected at Outfall 608]
3. Outfall 608 (WWT Effluent)  
[Samples were collected at this outfall one detention time after samples collected at station 601]
4. Outfall 002 (Pond B Discharge)

Each sample was collected following the required Method 1669: *Sampling Ambient Water for Determination of Trace Metals at EPA Water Quality Criteria Levels* (Sampling Method) and analyzed by Method 1631. At the request of Duke Energy, total metal mercury samples were collected from Station 601 and analyzed by Method 7470A. Also at the request of Duke Energy, a dissolved low-level mercury sample was collected by Method 1669 from Outfall 608 and analyzed by Method 1631. The collected dissolved sample was filtered at the laboratory utilizing 0.45 micron filtration.

Field staff from URS' Cincinnati office conducted the sampling and TestAmerica Laboratories Inc. located in North Canton, Ohio performed the analytical procedures. The analytical procedures included the analyses of a collected sample and duplicate sample (duplicates collected at Outfall 608 and Outfall 002), field blank (field blanks collected at the River Intake, Outfall 608, and Outfall 002), and trip blank.



Duke Energy - MFS  
April 23, 2011  
Page 2

The results from the **April 4 and 5, 2011** sampling event are presented in the attached Table 1. A copy of the laboratory report is enclosed with this letter.

--ooOoo--

URS is pleased to provide continued assistance to Duke Energy in the execution of their environmental monitoring requirements. If there are any questions regarding the content of this report, please do not hesitate to contact the undersigned.

Sincerely,

URS Corporation

A handwritten signature in blue ink, appearing to read "Michael A. Wagner", is positioned above the printed name.

Michael A. Wagner  
Project Manager

A handwritten signature in blue ink, appearing to read "Dennis P. Connair", is positioned above the printed name.

Dennis P. Connair, C.P.G.  
Principal

MAW/DPC/Duke Energy-MFS LL Hg 2011  
Job No. 14949813

**TABLE 1**  
**ANALYTICAL RESULTS**  
**LOW-LEVEL MERCURY**  
**RIVER INTAKE, STATION 601, OUTFALL 608, AND OUTFALL 002 (POND B)**  
**DUKE ENERGY - MIAMI FORT STATION**  
**NORTH BEND, OHIO**

Sample ID	Date Sampled / Results (ng/L, parts per trillion)					
	11/1/10	12/1/10	1/5/11	2/1/11	3/1/11	4/4/11
River Intake	1.1	3.0	9.7	2.1	15.4	<0.50
Station 601 (7)	408,000	380,000	315,000	88,200	22,500	132,000
Station 601 (7)*	350,000	494,000	6,100	7,600	2,500	7,900
Station 601 (7)* [duplicate]	378,000	489,000	6,100	Not Collected	4,100	5,900
Station 601 (8)	247,000	184,000	UDFS	101,000	38,400	UDFS
Station 601 (8)*	104,000	490,000	UDFS	4,300	4,700	UDFS
Station 601 (8)*[duplicate]	Not Collected	Not Collected	UDFS	3,600	Not Collected	UDFS
Outfall 608	248	345	97.2	428	180	171
Outfall 608 [duplicate]	254	333	102	420	191	180
Outfall 608 [dissolved, 0.45 micron]	124	81.7	0.91	40.8	3.7	70.6
APB-002	2.9	4.0	3.8	5.3	3.7	0.62
APB-002 [duplicate]	3.0	3.6	3.4	5.0	4.1	1.3
Field Blank (RI-FB)	<0.50	<0.50	<0.50	<0.50	1.3	<0.50
Field Blank (WWT-FB)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Field Blank (AP-FB)	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Trip Blank	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50

Samples collected by URS

Samples analyzed by TestAmerica of North Canton, Ohio

UDFS - Unit down for service, no samples collected.

\* = Total mercury analysis utilizing Method 7470A [results converted from ug/L (parts per billion) to ng/L]

## ANALYTICAL REPORT

PROJECT NO. 14949813

DUKE MF LLHG 2011

Lot #: A1D060442

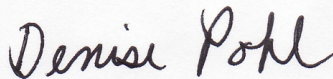
Sue Wallace

Duke Energy Corporation

PO Box 5385

Cincinnati, OH 45201

TESTAMERICA LABORATORIES, INC.



**Denise Pohl**

Project Manager

denise.pohl@testamericainc.com

Approved for release.  
Denise Pohl  
Project Manager  
4/15/2011 8:38 AM

April 15, 2011

**TestAmerica Laboratories, Inc.**

TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720

Tel (330)497-9396 Fax (330)497-0772 [www.testamericainc.com](http://www.testamericainc.com)



## **CASE NARRATIVE**

A1D060442

The following report contains the analytical results for twelve water samples and one quality control sample submitted to TestAmerica North Canton by Cinergy from the DUKE MF LLHG 2011 Site, project number 14949813. The samples were received April 06, 2011, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Candance Bonham, Mike Wagner, and Sue Wallace on April 14, 2011. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters were evaluated to the reporting limit.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Denise Pohl, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 16.8°C.

See TestAmerica's Cooler Receipt Form for additional information.

#### **METALS**

Matrix spike recovery and relative percent difference (RPD) data were not calculated for some analytes for 608 WWT due to the sample concentration reading greater than four times the spike amount. See the Matrix Spike Report for the affected analytes which will be flagged with "NC, MSB".

The QC batch(es) 1097011 was reported without an MS/MSD. The MS/MSD was performed on another client's sample within the batch. The MS/MSD result does not have immediate bearing on any samples except for the actual sample spiked. Ongoing evaluation and monitoring of the LCS provides long-term precision and accuracy for the method.

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called Quality Control Batches (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a Method Blank (MB), a Laboratory Control Sample (LCS) and, a Matrix Spike/Matrix Spike Duplicate (MS/MSD) pair or a Matrix Spike/Sample Duplicate (MS/DU) pair.

For 600 series/CWA methods, QC samples include a Method Blank (MB), a Laboratory Control Sample (LCS) and, where appropriate, a Matrix Spike (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch, with the exception of poor performing analytes. A list of these analytes is listed below. No corrective action is taken if these analytes do not meet criteria. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

#### **Poor performers**

<b>Method 8270 Water and Solid:</b>	
4-Nitrophenol	3,3' - Dichlorobenzidine
Benzoic Acid	2,4,6 - Tribromophenol
Phenol	2,4-Dinitrophenol
Phenol-d5	Pentachlorophenol
4,6-Dinitro-2-methylphenol	Hexachlorocyclopentadiene (LCG only)
Benzyl Alcohol	4-Chloroaniline
<b>Method 8151 Solid</b>	
Dinoseb	
<b>Method 8260 Water and Solid</b>	
Dichlorodifluoromethane	Hexachlorobutadiene
Trichlorofluoromethane	Naphthalene
Chloroethane	1,2,3-Trichlorobenzene
Acetone	1,2,4-Trichlorobenzene
Bromomethane	2,2-Dichloropropane
Bromoform	Chloromethane

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be ten fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

## QUALITY CONTROL ELEMENTS NARRATIVE (continued)

<b><u>Volatile (GC or GC/MS)</u></b>	<b><u>Semivolatile (GC/MS)</u></b>	<b><u>Metals ICP-MS</u></b>	<b><u>Metals ICP Trace</u></b>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results do not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate or Matrix Spike/Sample Duplicate.

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater. For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.



### **TestAmerica Certifications and Approvals:**

The laboratory is certified for the analytes listed on the documents below. These are available upon request.  
California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),

Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada (#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), DoD ELAP (ADE-1437) USDA Soil Permit (P33-08-00123)



## EXECUTIVE SUMMARY - Detection Highlights

A1D060442

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
601(7)WWT 04/04/11 17:35 003				
Mercury	132000	50000	ng/L	CFR136A 1631E
601(7)WWT TOT 04/04/11 17:40 004				
Mercury	7.9	0.20	ug/L	SW846 7470A
601(7)WWT TOT DUP 04/04/11 17:45 005				
Mercury	5.9	0.20	ug/L	SW846 7470A
608 WWT 04/05/11 07:40 006				
Mercury	171	10.0	ng/L	CFR136A 1631E
608 WWT DUP 04/05/11 07:45 007				
Mercury	180	100	ng/L	CFR136A 1631E
608 WWT DISS 04/05/11 07:50 008				
Mercury - DISSOLVED	70.6	50.0	ng/L	CFR136A 1631E
OUTFALL 002 04/05/11 08:25 012				
Mercury	0.62	0.50	ng/L	CFR136A 1631E
OUTFALL 002 DUP 04/05/11 08:30 013				
Mercury	1.3	0.50	ng/L	CFR136A 1631E

# ANALYTICAL METHODS SUMMARY

A1D060442

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Mercury, Low Level Mercury, CVA Fluorescence	CFR136A 1631E

## References:

- CFR136A "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

# SAMPLE SUMMARY

A1D060442

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
MGLLE	001	RIFB	04/04/11	17:05
MGLLL	002	RI	04/04/11	17:15
MGLLP	003	601(7)WWT	04/04/11	17:35
MGLL1	004	601(7)WWT TOT	04/04/11	17:40
MGLL6	005	601(7)WWT TOT DUP	04/04/11	17:45
MGLL9	006	608 WWT	04/05/11	07:40
MGLMA	007	608 WWT DUP	04/05/11	07:45
MGLMC	008	608 WWT DISS	04/05/11	07:50
MGLMD	009	608 WWT FB	04/05/11	07:55
MGLME	010	TRIP BLANK	04/05/11	
MGLMF	011	OUTFALL 002 FB	04/05/11	08:20
MGLMH	012	OUTFALL 002	04/05/11	08:25
MGLMK	013	OUTFALL 002 DUP	04/05/11	08:30

## NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Duke Energy Corporation

Client Sample ID: RIFB

TOTAL Metals

Lot-Sample #...: A1D060442-001

Matrix.....: WQ

Date Sampled...: 04/04/11 17:05 Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1098102						
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/08/11	MGLLE1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: RI

TOTAL Metals

Lot-Sample #...: A1D060442-002

Matrix.....: WG

Date Sampled...: 04/04/11 17:15 Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1098102						
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/11/11	MGLLL1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: 601(7)WWT

TOTAL Metals

Lot-Sample #...: A1D060442-003

Matrix.....: WG

Date Sampled...: 04/04/11 17:35 Date Received...: 04/06/11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1098102						
Mercury	132000	50000	ng/L	CFR136A 1631E	04/07-04/11/11	MGLLP1AA

Dilution Factor: 100000

Duke Energy Corporation

Client Sample ID: 601(7)WWT TOT

TOTAL Metals

Lot-Sample #...: A1D060442-004

Matrix.....: WG

Date Sampled...: 04/04/11 17:40 Date Received...: 04/06/11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	1097011					
Mercury	7.9	0.20	ug/L	SW846 7470A	04/07-04/11/11	MGLL11AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: 601(7)WWT TOT DUP

TOTAL Metals

Lot-Sample #...: A1D060442-005

Matrix.....: WG

Date Sampled...: 04/04/11 17:45 Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1097011						
Mercury	5.9	0.20	ug/L	SW846 7470A	04/07-04/11/11	MGLL61AA
		Dilution Factor: 1				



Duke Energy Corporation

Client Sample ID: 608 WWT

TOTAL Metals

Lot-Sample #...: A1D060442-006

Matrix.....: WG

Date Sampled...: 04/05/11 07:40 Date Received...: 04/06/11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	1098102					
Mercury	171	10.0	ng/L	CFR136A 1631E	04/07-04/08/11	MGLL91AA

Dilution Factor: 20

Duke Energy Corporation

Client Sample ID: 608 WWT DUP

TOTAL Metals

Lot-Sample #...: A1D060442-007

Matrix.....: WG

Date Sampled...: 04/05/11 07:45 Date Received...: 04/06/11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	1098102					
Mercury	180	100	ng/L	CFR136A 1631E	04/07-04/08/11	MGLMA1AA

Dilution Factor: 200

Duke Energy Corporation

Client Sample ID: 608 WWT DISS

DISSOLVED Metals

Lot-Sample #...: A1D060442-008

Matrix.....: WG

Date Sampled...: 04/05/11 07:50 Date Received...: 04/06/11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 1098102						
Mercury	70.6	50.0	ng/L	CFR136A 1631E	04/07-04/08/11	MGLMC1AA
		Dilution Factor: 100				

Duke Energy Corporation

Client Sample ID: 608 WWT FB

TOTAL Metals

Lot-Sample #...: A1D060442-009

Matrix.....: WQ

Date Sampled...: 04/05/11 07:55 Date Received...: 04/06/11

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...	1098102					
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/08/11	MGLMD1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: TRIP BLANK

TOTAL Metals

Lot-Sample #...: A1D060442-010

Matrix.....: WQ

Date Sampled...: 04/05/11

Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1098102						
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/08/11	MGLME1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: OUTFALL 002 FB

TOTAL Metals

Lot-Sample #...: A1D060442-011

Matrix.....: WQ

Date Sampled...: 04/05/11 08:20 Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1098102						
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/08/11	MGLMF1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: OUTFALL 002

TOTAL Metals

Lot-Sample #...: A1D060442-012

Matrix.....: WG

Date Sampled...: 04/05/11 08:25 Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1098102						
Mercury	0.62	0.50	ng/L	CFR136A 1631E	04/07-04/11/11	MGLMH1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: OUTFALL 002 DUP

TOTAL Metals

Lot-Sample #...: A1D060442-013

Matrix.....: WG

Date Sampled...: 04/05/11 08:30 Date Received...: 04/06/11

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 1098102						
Mercury	1.3	0.50	ng/L	CFR136A 1631E	04/07-04/11/11	MGLMK1AA
		Dilution Factor: 1				



# ***QUALITY CONTROL SECTION***

# METHOD BLANK REPORT

## TOTAL Metals

Client Lot #...: A1D060442

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A1D070000-011 <b>Prep Batch #...</b> : 1097011						
Mercury	ND	0.20	ug/L	SW846 7470A	04/07-04/11/11	MGM391AJ
Dilution Factor: 1						

<b>MB Lot-Sample #:</b> A1D080000-102 <b>Prep Batch #...</b> : 1098102						
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/08/11	MGP4P1AA
Dilution Factor: 1						

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A1D060442

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A1D080000-102 <b>Prep Batch #...</b> : 1098102						
Mercury	ND	0.50	ng/L	CFR136A 1631E	04/07-04/08/11	MGP4P1AD
Dilution Factor: 1						

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A1D060442

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
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LCS Lot-Sample#: A1D070000-011 Prep Batch #...: 1097011

Mercury	94	(81 - 123)	SW846 7470A	04/07-04/11/11	MGM391AT
Dilution Factor: 1					

LCS Lot-Sample#: A1D080000-102 Prep Batch #...: 1098102

Mercury	86	(77 - 125)	CFR136A 1631E	04/07-04/08/11	MGP4P1AC
Dilution Factor: 1					

### NOTE(S):

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Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A1D060442

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A1D080000-102 Prep Batch #...: 1098102

Mercury	86	(77 - 125)	CFR136A 1631E	04/07-04/08/11	MGP4P1AE
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A1D060442

Matrix.....: WATER

Date Sampled...: 04/05/11 08:15 Date Received...: 04/06/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #:</b> A1D060432-002 <b>Prep Batch #...</b> : 1098102							
Mercury	78	(71 - 125)			CFR136A 1631E	04/07-04/11/11	MGLJF1AC
	98	(71 - 125)	23	(0-24)	CFR136A 1631E	04/07-04/11/11	MGLJF1AD
Dilution Factor: 5							

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A1D060442

Matrix.....: WG

Date Sampled...: 04/05/11 07:40 Date Received...: 04/06/11

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #:</b> A1D060442-006 <b>Prep Batch #...</b> : 1098102						
Mercury	NC,MSB	(71 - 125)		CFR136A 1631E	04/07-04/08/11	MGLL91AC
	NC,MSB	(71 - 125)	(0-24)	CFR136A 1631E	04/07-04/08/11	MGLL91AD
Dilution Factor: 20						

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

NC The recovery and/or RPD were not calculated.

MSB The recovery and RPD may be outside control limits because the sample amount was greater than 4X the spike amount.

## Chain of Custody Record

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location:

Regulatory program:

☐ DW☐ NPDES☐ RCRA☐ Other

Client Contact

Company Name:

Rite Energy

Address:

Minn. Fort Station

City/State/Zip:

North Bond, OH

Phone:

(513) 651-3442 (CRS)

Project Name:

Rite M-F 14 Hg 2011

Project Number:

1494813

PO #

Client Project Manager:

Mika Wagoner

Telephone:

(513) 651-3442

Email:

Mika.Wagoner@CRS.com

Site Contact:

T. Thomas

Telephone:

(513) 467-4900

Lab Contact:

T. Thomas

Telephone:

TestAmerica Laboratories, Inc.

COC No:

1 of 2 COCs

Analyses

TAT: 10 business days

3 weeks

2 weeks

1 week

2 days

1 day

Other:

Other:

Other:

Other:

Other:

Other:

Other:

Other:

Other:

Other:

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Other:

Other:

Possible Hazard Identification

☐ Non-Hazard☐ Flammable☐ Skin Irritant☐ Poison B☒ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client☒ Disposal By Lab☐ Archive For

Months

Special Instructions/OC Requirements &amp; Comments:

\* Potentially Elevated Hg levels

\* Potentially Elevated Hg levels

Sample Specific Notes /  
Special Instructions:

Sample Identification	Sample Date	Sample Time	Air	Aqueous	Sediment	Solid	Other:	H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (V/V)	Compositional Data	Analyses	Sample Specific Notes / Special Instructions:
REFB	4/4/11	1705	X										2					
RI		1715											4					
601 (7) WWT		1735											4					
601 (7) WWT Tot		1740																
* 601 (7) WWT Tot Dup		1745																
608 WWT	4/5/11	0740											4					
608 WWT Dup		0745											4					
608 WWT Disc		0750											4					
608 WWT FB		0755											2					
Top Blank													2					



# Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: \_\_\_\_\_  
Regulatory program: \_\_\_\_\_

☐ DW ☐ NPDES ☐ RCRA ☐ Other \_\_\_\_\_

TestAmerica Laboratories, Inc.  
COC No: \_\_\_\_\_

Company Name: _____		Client Project Manager: _____		Site Contact: _____		Lab Contact: _____	
Address: <b>SEE</b>		Telephone: <b>715-571-1111</b>		Telephone: _____		COC No: <b>2 of 2</b>	
City/State/Zip: _____		Email: _____		Analytical Turnaround Time (in hrs/days) <b>Standard</b>		See lab use only	
Phone: _____		Project Name: _____		Method of Shipment/Carrier: _____		Walk-in, clean lab pickup, lab sampling, lab/DOA, etc.	
Project Number: _____		Shipping/Tracking No: _____		TAT if different from below		_____	
P.O. # _____		Sample Identification		Sample Date		Sample Time	
Sample Identification		Sample Date		Sample Time		Air	
Sample Identification		Sample Date		Sample Time		Aqueous	
Sample Identification		Sample Date		Sample Time		Sediment	
Sample Identification		Sample Date		Sample Time		Solid	
Sample Identification		Sample Date		Sample Time		Other:	
Sample Identification		Sample Date		Sample Time		H2SO4	
Sample Identification		Sample Date		Sample Time		HNO3	
Sample Identification		Sample Date		Sample Time		HCl	
Sample Identification		Sample Date		Sample Time		NaOH	
Sample Identification		Sample Date		Sample Time		ZnAc/NaOH	
Sample Identification		Sample Date		Sample Time		Unpres	
Sample Identification		Sample Date		Sample Time		Other:	
Sample Identification		Sample Date		Sample Time		Filtered Sample (Y/N)	
Sample Identification		Sample Date		Sample Time		Composite - C / Grab - G	
Sample Identification		Sample Date		Sample Time		LL Hg	
Sample Identification		Sample Date		Sample Time		Analyses	
Sample Identification		Sample Date		Sample Time		Sample Specific Notes / Special Instructions:	

**TestAmerica Cooler Receipt Form/Narrative**  
**North Canton Facility**

Lot Number: 41D00442

Client Duke Project MC LUG 2011 By: [Signature]  
 Cooler Received on 4-6-11 Opened on 4-6-11 (Signature)

FedEx ☒ UPS ☐ DHL ☐ FAS ☐ Stetson ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ☐  
 TestAmerica Cooler # C329 Multiple Coolers ☐ Foam Box ☐ Client Cooler ☐ Other ☐

1. Were custody seals on the outside of the cooler(s)? Yes ☒ No ☐ Intact? Yes ☒ No ☐ NA ☐  
 If YES, Quantity 1 Quantity Unsalvageable \_\_\_\_\_  
 Were custody seals on the outside of cooler(s) signed and dated? Yes ☒ No ☐ NA ☐  
 Were custody seals on the bottle(s)? Yes ☐ No ☒  
 If YES, are there any exceptions? \_\_\_\_\_
  2. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐
  3. Did custody papers accompany the sample(s)? Yes ☐ No ☐ Relinquished by client? Yes ☒ No ☐
  4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐
  5. Packing material used: Bubble Wrap ☒ Foam ☒ None ☐ Other \_\_\_\_\_
  6. Cooler temperature upon receipt 16.8 °C See back of form for multiple coolers/temps ☐  
 METHOD: IR ☒ Other ☐  
 COOLANT: Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☒
  7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
  8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
  9. Were sample(s) at the correct pH upon receipt? Yes ☒ No ☐ NA ☒
  10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
  11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☐ NA ☒
  12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
  13. Was a trip blank present in the cooler(s)? Yes ☒ No ☐ Were VOAs on the COC? Yes ☐ No ☒
- Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal ☐ Voice Mail ☐ Other ☐  
 Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY**

The following discrepancies occurred:

High Temp OK for LUG + metals.

**15. SAMPLE CONDITION**

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

**16. SAMPLE PRESERVATION**

Sample(s) \_\_\_\_\_ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 100110-HNO<sub>3</sub>; Sulfuric Acid Lot# 110410-H<sub>2</sub>SO<sub>4</sub>; Sodium Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108- (CH<sub>3</sub>COO)<sub>2</sub>ZN/NaOH. What time was preservative added to sample(s)? \_\_\_\_\_

Client ID	pH	Date	Initials
601(7)WWT TOT	6.2	4/6/11	[Signature]
601(7)WWT TOT D	6.2		[Signature]

## North Canton Facility

[illegible]

Discrepancies Cont'd:

***END OF REPORT***